## **Low-Density Supersonic Decelerator System**

Mark Adler, Chuck Player, Juan Cruz, Ian Clark, Adam Steltzner, and Tom Rivellini

The heady days of sticking a rocket under your gizmo just to see if it works are coming back. In the summer of 1972, the Viking Project conducted four high-altitude tests in Earth's atmosphere of the supersonic parachute design to be used for landing on Mars. We've been stuck with that design ever since. In the spring and summer of 2013, a series of four balloon-launched, rocket-propelled tests of the next generation of supersonic decelerators will culminate the development program of new descent technologies to be used on future Mars landers. A Mach 4 inflatable decelerator and a Mach 2 ringsail parachute will team to create a low-density supersonic decelerator system for high ballistic coefficient entry systems at Mars.